

CLAIMS:

We claim:

1. A retention apparatus for retaining a rotatable member of an implantable hearing aid transducer system relative to a mounting apparatus, comprising:
 - 5 a retaining member;
at least one guide on the retaining member movable along a predetermined path of travel in the mounting apparatus between an unlocked and a locked position; and
a resilient member compressible between the retaining member and a rotatable member to capture the rotatable member in a desired angular orientation relative to an
10 auditory component when the retention apparatus is in the locked position.
2. The retention apparatus of Claim 1 comprising:
 - a pair of diametrically opposed guides engageable with a channel defined in the mounting apparatus and movable within the channel to compress the resilient member
15 between the retaining member and the rotatable member.
3. The retention apparatus of Claim 1 wherein the retaining member and the resilient member are interconnected as a single unit.
- 20 4. The retention apparatus of Claim 1 wherein the retention apparatus is receivable in a cavity of the mounting apparatus.
5. The retention apparatus of Claim 4 wherein when the retention apparatus is in the locked position the rotatable member is rotatable within the cavity when a
25 predetermined amount of force is applied.
6. The retention apparatus of 2 wherein the guides comprise a pair of detents engageable with a feature of the channel to lock the resilient member in a compressed state.

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7. The retention apparatus of Claim 1 wherein the retaining member comprises:
a first interface to receive a tool for moving the retention apparatus between the
unlocked and locked positions.

5 8. The retention apparatus of Claim 1 wherein the rotatable member supports an
interconnected hearing aid transducer.

9. The retention apparatus of Claim 1 wherein the rotatable member is a housing of
a hearing aid transducer.

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10. The retention apparatus of Claim 1 comprising:
a base interconnected to the resilient member distal to the retaining member.

11. The retention apparatus of Claim 10 wherein the base comprises:
15 a second interface to increase the frictional coefficient between the rotatable
member and the base when the retention apparatus is in the locked position.

12. An implantable hearing aid transducer mounting system comprising:
a mounting apparatus connectable to a patient's skull and defining a cavity for
20 receiving a rotatable member therein; and

a retention apparatus comprising a resilient member, wherein the retention
apparatus is movable along a predetermined path relative to the mounting apparatus to
compress the resilient member relative to a rotatable member to capture the rotatable
member in a desired angular orientation relative to an auditory component.

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13. The system of Claim 12 wherein the retention apparatus comprises:
a retaining member rotatable within the cavity; and
a pair of guides on the retaining member to guide the retention apparatus
between an unlocked position and a locked position; and

30 a base interconnected to the resilient member distal to the retaining member

14. The system of Claim 13 comprising:

a tool to facilitate movement of the retention apparatus between an unlocked position and a locked position.

5 15. The system of Claim 14 wherein the retention apparatus comprises:
a first interface to receive the tool.

16. The system of Claim 13 wherein the base comprises:

a second interface to increase the frictional coefficient between the rotatable
10 member and the base when the retention apparatus is in the locked position.

17. The system of Claim 12 wherein the rotatable member supports an interconnected hearing aid transducer.

15 18. The system of Claim 12 wherein the rotatable member is a housing of the hearing aid transducer.

19. The system of Claim 12 wherein the mounting apparatus, retention apparatus, and rotatable member, are pre-assembled as a single unit prior to implantation with the
20 patient.

20. The system of Claim 12 wherein the pair of guides comprise:

a pair of detents engageable with a channel defined in the mounting apparatus and movable within the channel to compress the resilient member as the retention
25 apparatus is moved to the locked position.

21. The system of Claim 20 wherein the pair of detents are engageable with a feature of the channel to lock the resilient member in a compressed state.

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22. A method for implanting a hearing aid transducer in a patient, the method comprising:

connecting a mounting apparatus to a patient's skull;

orienting a rotatable member relative to a desired interface point on an auditory component; and

attaching a spring loaded retention apparatus to the mounting apparatus to capture the rotatable member in a desired angular orientation relative to the auditory component

23 The method of Claim 23 wherein the mounting apparatus, the rotatable member, and the spring loaded retention apparatus, are pre-assembled prior to the connecting step.

24. The method of Claim 22 wherein the orienting step comprises:

rotating the rotatable member within a cavity of the mounting apparatus.

25. The method of Claim 24 wherein the rotating step is performed prior to the attaching step.

26. The method of Claim 24 wherein the rotating step is performed subsequent to the attaching step.

27. The method of Claim 23 wherein the rotatable member comprises at least a portion of a transducer housing.

28. The method of Claim 22 wherein the attaching step comprises:

defining a predetermined path of travel between an unlocked position and a locked position of the spring loaded retention apparatus.

29. The method of Claim 28 wherein the attaching step comprises:
moving a guide of the spring loaded retention apparatus along the
predetermined path of travel to lock and unlock the retention apparatus.
- 5 30. The method of Claim 29 wherein a spring of the spring loaded retention
apparatus is compressed as a result of the moving step.
31. The method of Claim 29 wherein the moving step comprises:
positively engaging the guide in a feature of the mounting apparatus to lock the
10 retention apparatus.
32. The method of Claim 29 wherein the guide comprises at least one detent.
33. The method of Claim 29 wherein the guide comprises a pair of diametrically
15 opposed detents.